

**REMARKS**

The application now contains 74 claims, claims 71-74 were added.

Claim 66 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Webb. in view of Marshall. Applicants respectfully traverse the rejection and submit that the combination of Webb in view of does not provide a *prima facie* case for obviousness.

The Webb patent utilizes a single electrode to deflect the panel. As indicated clearly at col. 2, lines 27-41 of Webb, the only electrification utilized in the flipping operation of Webb is a voltage applied between the hinge and the address electrode. Electrode 14 is a landing electrode and there is no teaching of any voltage being applied to this electrode either for flipping or for reduction of the stiction. Webb *does* recognize that stiction is a problem. However, Webb counteracts stiction by coating the landing electrode with a non-stick coating 26.

The teachings of Marshall are described below with respect to the rejected claims.

Claim 66 defines overcoming stiction by applying a voltage to a levitation electrode. Flipping is achieved by applying a voltage to a *second* flipping electrode. As indicated above, while Webb does deflect the panel using a voltage on the address electrode, it does not overcome stiction in the manner required by the claim, but in an altogether other manner.

In an effort to overcome this lacuna in Webb, the Examiner cites to Marshall. The Examiner is correct that Marshall teaches applying a same voltage to the landing electrodes and the mirrors. However, it is not at all clear how such a teaching, with or without Webb teaches "counteracting stiction between said panel and a surface using field generated by applying a voltage to the levitation electrode." In neither Webb nor Marshall is there a levitation electrode and certainly no such electrode separate from the flipping electrode.

Consider Webb first. In Webb "flipping" is accomplished by providing a voltage to address electrode. There is no other electrified electrode. This is essentially the same as in Webb.

In Marshall, as correctly indicated by the Examiner, the same voltage is applied to the mirror and the landing electrode. As such, there is no electric field acting between the landing electrode and the mirror when the mirror and the landing electrode are in contact or even when they are close together. Since there is no electric field, there is no force and there is no overcoming of stiction. Therefore, the landing electrode of Marshall can not be considered to be a levitation electrode since it does not levitate anything and also does not overcome stiction.

Consider, for example, two plates at the same voltage and spaced a distance apart. The electric field between them is zero and they do not attract. Similarly, the constant zero voltage

difference between the landing electrode and the mirror results in no field between them and no force in either direction. It is noted that Marshall also mentions stiction and states that stiction between the mirror and landing electrode is reduced by coating the landing electrode (col. 5, lines 46-49) with a stiction reducing coating, in exactly the same way as in Webb.

Applicants believe that supplying a same voltage to the landing site and mirror in Webb would have little if any effect.

Additional claims 71-74 are added to further define this aspect of the invention.

Claims 67-70 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Webb in view of Marshall and Hotomi. Applicants respectfully traverse the rejection. Applicants respectfully submit that the combination of Webb in view of Marshall and Hotomi does not provide a *prima facie* case of obviousness.

Applicants first traverse any obviousness in combining either Webb or Marshall with Hotomi. Hotomi comes from a completely different field, namely the field of ink-jet printing. There are no solid surfaces that stick together such that there can be no stiction in ink-jet printing, as defined in Hotomi. Furthermore, the entire operation of Hotomi and the other two references is so different that a person of the art would not consider that they could be combined and certainly not to overcome stiction.

The Examiner says that Hotomi is relevant in that it provides "the teaching in the electrostatic energy as it relates to each pixel." It is difficult to understand the relevance of this statement, since the electrostatic energy applied to each pixel is already present in both Webb and Marshall. Nor is it obvious as to how these disparate references should be combined. How is the vibration of Hotomi which teaches the vibration of a liquid in a well be applied to the removal of stiction from two surfaces as in the present claim?

The Examiner appears to indicate that that the references should be combined by vibrating the landing of Webb. However, the landing of Webb and the element 8 of Hotomi provide completely different functions. In Webb the landing provides a resting place for a small element that touches the landing and, perforce, sticks to it. In Hotomi, there is no small element, no resting place and no stiction. It is a liquid that is vibrated to aid in its being jetted by an electric field.

Looking first at claim 67. Assuming arguendo that the flipping of claim 67 is met by the deformation of Webb, the combination still does not *prima facie* teach the invention for a number of reasons. As a preliminary matter applicants submit that Marshall, as described by the Examiner

does not appear to have any bearing on the present claim 67. Marshall is cited to teach electrifying the landing electrode. However, the claim does not have any limitations relating to this feature.

While claim 67 (and Webb to the extent that it mentions stiction) deal with the question of overcoming stiction between one surface and another, There is no such problem in Hotomi. Hotomi does apply energy to the *liquid ink* in the ink room 5 so that it can be jetted to the paper by the electric field. However, this has no connection with stiction between two elements, as in the present invention. In Hotomi, no panel is present, much less vibrated and no vibration is applied to a surface that the panel may stick to. There is just nothing to connect Hotomi and Webb.

As to claim 68, applicant submits that as in claim 67, there is no motivation or reason to combine the Hotomi reference with either the Webb or Marshall reference. They are just too disparate. Nor is it clear how this claim which requires that there be two distinct elements can be obvious in view of the combination. A first element in the claim is a force providing element that causes flipping. This can be identified with the address electrodes of Webb or Marshall. The second element is a "stiction countering electrode which applies an electrostatic force on said moving part...". As indicated above, this element is missing from both Webb and Marshall. In Hotomi there is only a single force, that of the vibration. The main operative effect of the vibration is to reduce cohesion of the liquid and reduce its surface tension so that the electric field can act on the liquid.

Claim 69 requires that both the force providing element and the anti-stiction element are electrostatic in nature. This is clearly distinguished from each element of the combination in which there is only a single *operative* element that produces an electrostatic field. All of these elements have the same effect, i.e., the ultimate movement function from one state to the "flipped" state, the mirror in Webb and Marshall and the liquid in Hotomi. There is no teaching of providing two electrodes with different functions of stiction reduction and motion production.

Claim 70 is not *prima facie* obvious at least for the same reasons as claims 68 and 69. In addition to there being only a single electrode taught in each of the prior art references, there is no teaching of anything that interferes with the motion producing electrode, as required by claim 70.


Thus, even agreeing *arguendo* with the Examiner that the deflection of Webb and Marshall is the same as the flipping of the claim (which applicants do not agree to), and that the liquid of Hotomi can somehow be identified with the flipped element of the claims (which applicants vigorously deny) the combinations of Webb in view of Marshall and Webb, Marshall and Hotomi still do not, even *prima facie*, teach the invention, as defined in claims 66-74.

118/02339 A03

In view of the above remarks applicants submit that claims are patentable and that the application is in order for allowance. Notice to that effect is respectfully solicited.

If the Examiner believes that a telephonic interview would be useful in resolving any remaining issues, the undersigned can be reached by telephone at +1 (877) 428-5468, which is a US toll free number connected directly to our office in Israel (please note the 7 hour time difference and the official work week is from Sunday to Thursday).

Respectfully submitted,  
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August 29, 2004

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